

## DEVOURS LIKE FIRE.

THE WONDERFUL EFFECTS PRODUCED BY FLUORINE.

The Diamond Only Able to Absolutely Resist This Powerful Solvent—Researches Into the Nature of a Hitherto Poorly Known Chemical Element.

The alchemists of the middle ages believed that somewhere in the universe was to be found a universal solvent which would dissolve the most refractory substances as readily as water dissolves sugar. They named their solvent liquor alkahol, and what time they could spare from the search after the elixir of life and the philosopher's stone was spent in the endeavor to obtain it. Science has yet to prove, by the way, that there was not more method in the madness of the alchemists than is generally supposed, for in the remarkable substance fluorine chemists possess material that approximates very closely to a universal solvent. Its chemical energy is so fierce that, except gold and platinum, nothing can resist it, and even gold and platinum succumb to fluorine in time. The mere contact of most substances with fluorine is sufficient to cause not mere solution, but light, flame and fierce detonations. Dull, inert flint takes fire when exposed to fluorine vapor and becomes a brilliant incandescent mass. Lampblack bursts into flame, while charcoal burns with bright scintillations. Only the diamond is able to resist this powerful solvent, to which it does not succumb even at high temperature. The similar element silicon, which can be obtained in a crystalline form closely resembling the diamond, gives a magnificent display in the presence of fluorine, the crystals becoming white hot and throwing showers of fiery spangles in all directions. The heat is so intense that the crystals melt, showing that their temperature has reached 1,300 degrees C. Phosphorus combines fiercely with fluorine. Prussian blue, on account of the cyanogen it contains, burns with a beautiful pink flame; while from a crystal of iodine placed in fluorine vapor a heavy liquid distills with a pale flame. This liquid—an iodide of fluorine—etches glass, and if thrown into water hisses like hot iron. The last named metal becomes white hot when exposed to fluorine; even iron rust behaves in a similar manner. Nearly all metals are raised to vivid incandescence in a current of the gas, many appearing very beautiful, especially aluminium and zinc. If the latter be slightly warmed, it bursts into a white flame too dazzling to gaze at or describe.

Although it has been known in various states of combination for many years, having been first discovered by Schwankhardit of Nuremberg, in 1670, and rediscovered by Scheele in 1771, fluorine was not obtained as fluorine in the free state until about six years ago, when the French chemist Moissan succeeded in isolating it by employing a current of electricity from 26 or 28 Bunsen batteries. The current was passed through the compound of fluorine and hydrogen known as hydrofluoric acid, which is similar to hydrochloric acid. To improve the conductivity of the hydrofluoric acid it was necessary to dissolve another fluorine compound in the liquid. As will readily be imagined, it is not so difficult to obtain free fluorine as to keep it when obtained. Every part of the apparatus used by M. Moissan was made of platinum, with screw joints and washers of lead, which swell on contact with fluorine, all the stoppers being of fluor spar. Fluorine has a powerful affinity for silicon, one of the principal constituents of glass, so that it was impossible to use glass vessels or tubes to contain the gas.

As regards the chemical nature of fluorine, it is a gas at ordinary temperature and is the lightest member of the series of elements containing chlorine, bromine and iodine. The attraction of fluorine for hydrogen exceeds that of chlorine and is so great that if a slow current of fluorine gas be passed into a tube of fluor spar containing a drop of water a dark fog is produced, which changes presently to a blue vapor consisting of ozone—the condensed form of oxygen. The last named substance appears to be one of the few materials which has no affinity for fluorine. Nothing is observed to take place between them even when they are heated up to 1,000 degrees F.

So far all experiments had been conducted with fluorine gas, which, at the time it was isolated, resisted all attempts to reduce it to the liquid state. Six years ago, however, there was no laboratory—such as that at the Royal Institution—having powerful machinery for producing liquid air or liquid oxygen at the command of the investigator. In fact, liquid air itself was practically unknown. By the aid of this weapon Professors Dewar and Moissan have succeeded in liquefying fluorine. At the extremely low temperature of liquid oxygen it was found that fluorine did not attack glass, and it was possible to use glass vessels to hold the newly liquefied element.—C. F. Townsend in Knowledge.

**A Tough Route.**  
"Somewhere in the south," says Congressman Sulloway, "a bright colored boy appeared before the civil service commission to be examined for the position of letter carrier. 'How far is it from the earth to the moon?' was the first question asked by those who were to determine the young man's fitness for the place he sought. 'How far am I from the earth to the moon?' echoed the applicant. 'My Lawd, boss, if you's gwine to put me on dat route I don't want de job.' With that the young man grabbed his hat and left as though he were chased."

In the Japanese match factories the boxes and labels are made by little girls, who are wondrously dexterous in the work. These little experts get from 1 to 5 cents for 12 hours' work.

## NEWSPAPER REPORTERS.

A Defense of Their Fair Mindedness, Reliability and Integrity.

A very common error is prevalent that the work of reporters, given in newspapers, as a rule is not entitled to respect or credence. It is generally assumed that the reporter writes chiefly or wholly to make a sensation or in some way interest readers without regard to facts, while just the reverse is the truth in all reputable newspaper establishments.

It is safe to assume that the statements of reporters given in the leading reputable journals of the country are quite as truthful as are the general statements from the pulpit when the minister gets outside of strictly religious teachings, and very much more truthful than are the public expressions of most if not all of the leading professions. With very few exceptions the management of our leading daily newspapers enforce truthfulness and fairness as the supreme attributes for a newspaper writer, and yet it is common for all who are displeased with any reportorial statement to say that "it's a mere newspaper story."

It is true that there are a few conspicuous exceptions to the rule that governs the reputable newspapers of the country.

Not only are the managers of our leading newspapers entitled to great credit for the scrupulous care they enforce on their reporters and correspondents to present the truth with as exact fairness as is possible, but the public little know the ceaseless care that is exercised in every reputable newspaper office to prevent the publication of even the truth when it would be more harmful to publish than to suppress it. There is not a week, indeed hardly a day, that the newspapers of this city do not suppress the facts proper for public information which would make a most interesting story solely because it would bring a flood of sorrow to the innocent and helpless and cast an imperishable shadow upon their lives. With all the errors necessarily committed in a newspaper office by reason of the haste with which the articles must often be prepared, the public little know with what thorough integrity the newspapers, as a rule, protect the innocent even at the cost of suppressing legitimate and interesting information. The skeletons of hundreds of households are carefully guarded in the newspaper offices of the country, and generally without even the knowledge of the people who are thus protected.—Philadelphia Times.

### SLEEP AND DREAMS.

How Agassiz Worked Out a Scientific Problem as Related by Himself.

The letters on sleep and dreams in The Spectator remind me of a case in the experience of Agassiz, and which he told me himself, though it is recorded in his work on the American fishes. He was studying a fossil fish in the Jardin des Plantes, but had never been able to determine the species to his satisfaction. After a time he dreamed that he caught the very fish and without difficulty determined the question, thinking, as he woke from the dream, that he would have no difficulty. But on returning to the fossil something in the dream had escaped him, and he could no more determine the species than before.

The next night he had the same dream and again forgot the essential point. He then determined to take a pencil and paper with him to bed and make his note as soon as he woke. The dream came the third time, but to his surprise on fully awakening he found the drawing made and lying on the table bed side, with three bones displayed in it which were not visible in the fossil, and which solved the problem. On returning to the Jardin des Plantes he obtained permission of his friend, the director, to chip away a scale of stone which lay on the spot where the bones were in the drawing, and found them there as his drawing had given them. It is 30 years since Agassiz told me the incident, but those who have access to his history of the North American fishes will be able to read it in his own words in the introduction and correct my version if my memory has in any detail failed me.—London Spectator.

### The Same Old Story.

"Grandfather," said the young humorist, "can you spend the afternoon with me tomorrow?"  
"I think so," replied the old man.  
"But what's the object?"  
"You are no doubt aware," answered the young man, "that I occasionally write humorous articles for the newspapers."  
"Yes, I know," said the old man, with a sigh, "and I have always hoped that you would some day see the error of your ways and reform. But what has that got to do with my spending the afternoon with you?"  
"I received a letter from a magazine publisher this morning," replied the alleged funny man, "requesting me to contribute to the humorous department of his publication matter similar to that to which his readers have been accustomed, and in order that I may meet the requirements I want you to tell me some of the jokes current during your boyhood days."—Chicago News.

### The Vanilla Bean.

It is not generally known that the vanilla bean is the costliest bean on earth. It grows wild and is gathered by the natives in Papantla and Misantla, Mexico. When brought from the forests, these beans are sold at the rate of \$2 5s. per 1,000, but when dried and cured they cost about \$2 5s. per pound. They are mainly used by druggists.—London Globe.

### Japanese Economy.

Japanese economy is one of the causes of Japanese prosperity. Even the charcoal dust is saved and molded into balls with chaff or straw for fuel.



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To RENT—One furnished room. Gentleman preferred. Call in the evening at 316, Sixth street.

Madame Smith the celebrated clairvoyant, has returned and can be consulted at the Central hotel.

They make combination photos of babies and children at the studio of Steckbauer & Borough.

WANTED—A good reliable hostler to solicit for the Singer Manufacturing Co Apply at 350 Fifth street

FOR SALE—House on Woodland avenue. Apply to Oscar Holmstedt, at D. T. Macdonald's drug store.

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### Permanency

Is one of the best points of a good photo. Every picture that leaves the gallery is guaranteed. V. HERMANN.

If you are thinking of having your photo taken call and inspect the work of Steckbauer & Borough before going elsewhere.

The Ladies' Aid society of M. E. church will give an apron sale, Monday afternoon and evening, April 18. There will be refreshments served also, including ice cream.

We are prepared to make you any size photo, groups or single, with nothing but the best material and workmanship used in completing the same at the studio of Steckbauer & Borough.

There will be a social and auction given in the basement of the Swedish Lutheran church next Saturday evening, the 16th, doors open at 6:30. Refreshments will be served during the evening and all are assured a good time who attend.

### To the Owners of Cows.

Cows found running at large in the township of Calumet after the first day of April, 1898, will be impounded.

By order of

THE TOWNSHIP BOARD.

Having purchased the stock and accounts of Mr. A. J. Lean and assumed the liabilities of the same, I desire to settle up the business as soon as possible and wish that all those who are indebted would call at once and settle.

M. B. KUHN.

**The American Navy, Cuba and Hawaii**  
A portfolio, in ten parts, sixteen views in each part, of the finest half tone pictures of the American navy, Cuba and Hawaii has just been published and the Chicago, Milwaukee & St. Paul railroad has made arrangements for a special edition for the benefit of its patrons and will furnish the full set, 160 pictures, for \$1. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Henford, general passenger agent C. M. & St. P. railroad, Chicago, Ill.

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Ottawa, Ont.	14.00	13.00
Montreal, Que.	14.00	13.00
Quebec, Que.	17.00	16.00
Albany, N. Y.	14.00	13.00
New York City	14.00	13.00
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